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ABSTRACT

This supplement provides teachers with tests, quizzes, answers to questions in the text, and general teaching information for using the student text, "Psychology," by Rebecca Stark. Quizzes included are on the topics of human development; the nervous system; the brain; cognitive development; sensation and perception; conditioning; learning; memory; motivation; emotion; altered states of consciousness; frustration and conflict; psychotherapy; theories of personality; and social psychology. A crossword puzzle and pre- and post-tests also are in the booklet. (EH)

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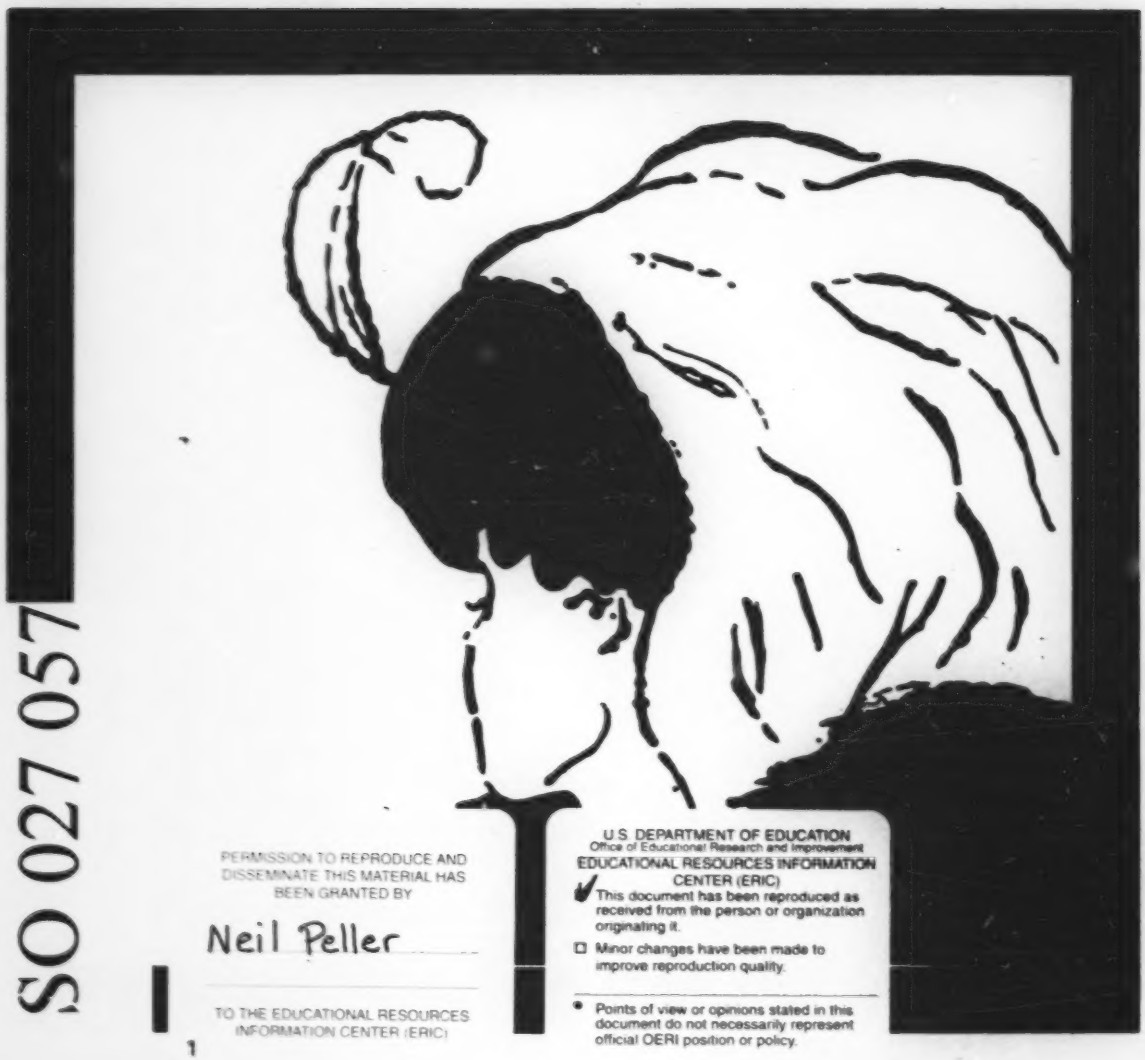
Psychology

Teacher Supplement

Written by Rebecca Stark



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Pre-Test

Circle the correct answer.

1. The _____ nervous system comprises the brain and the spinal cord and their associated blood vessels, fluids and membranes.

   A. Central B. Peripheral C. Autonomic

2. The _____ is the point at which a nerve impulse passes from an axon of one neuron to the dendrite of another.

   A. Soma B. Synapse C. Nucleus

3. The _____ is the largest part of the brain; it is divided into two symmetrical hemispheres.

   A. Cerebellum B. Midbrain C. Cerebrum

4. The sudden solution accompanied by an experience of insight is known as the _____ experience.

   A. Aha! B. Transference C. Incubation

5. The meaningful interpretation of sensory experiences is _____.

   A. Sensation B. Perception C. Conditioning

6. _____ involves the training of an individual to repond in a specific way to a specific stimulus.

   A. Memory B. Gestalt C. Conditioning

7. The _____ nervous system controls emotions.

   A. Central B. Peripheral C. Autonomic

8. An individual who swings back and forth from a severe state of depression to a state of elation is _____.

   A. Manic-depressive B. Neurotic C. Schizophrenic

9. _____ is best known for his theories on psychoanalytic therapy.

   A. B.F. Skinner B. Ivar Pavlov C. Sigmund Freud

10. The use of _____, developed by Hermann Rorschach, is a well-known projective technique of personality assessment.

    A. Ratings B. Inkblot tests C. Hypnosis

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Human Development

1. The nature-nurture controversy is really a question of _____ vs. _____.

2. The _____ hypothesis states that the best time for a child to learn a skill is when his or her body is just mature enough to master it.

3. Goslings follow the first moving object they see because of the rapid learning called _____ that occurs in the first few days of life.

4. The period of growth and development between childhood and adulthood is _____.

5. _____ are useful in the study of behavior genetics because they share the same genetic make-up.

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The Nervous System

1. The nervous system is divided into three sub-systems: the _____ nervous system, the _____ nervous system and the _____ system.

2. The central nervous system is made up of the _____ and the _____ and the associated blood vessels, fluids and membranes.

3. Cranial nerves and spinal nerves are part of the _____ nervous system.

4. The _____ nervous system controls involuntary activities, such as breathing and digestion.

5. Another word for a nerve cell is _____.

Match each part of a nerve cell with its proper description.

_____	6. Contains genetic information	A. Dendritic zone
_____	7. The cell body	B. Axon terminals
_____	8. Mostly thread-like processes with spiny projections	C. Nucleus
_____	9. Small fibers at end of long, thin processes	D. Synapse
_____	10. Area where axon terminal of 1 neuron comes close to dendritic zone of another	E. Soma

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The Brain

1. The _____ is divided into two hemispheres. It is where important mental functions take place.

2. The _____ is the commissure that connects the two hemispheres.

3. The folded surface layer of the cerebrum is the cerebral _____.

4. The _____ acts as a central receiving station for incoming sensory messages.

5. If you are right-handed, your _____ hemisphere is probably dominant.

6. The inability to recognize meanings of words or to speak in meaningful terms is known as _____.

7. Split-brain operations involve the cutting of the _____.

8. _____ is caused by brain damage. In its severe form the seizures are called "grand mal."

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Cognitive Development

1. _____ was a Swiss psychologist who based his theory of cognitive development on the principles of organization, equilibrium, and adaptation.

2. The type of adaptation that requires the modification of existing schemata or the formation of new schemata is called _____.

3. According to Piaget, there are _____ stages of cognitive development.

4. _____ is the understanding that certain properties of an object, such as weight, do not change despite changes in other perceivable features.

5. According to James Bruner, the _____ mode of representation is the representation of knowledge by motor schemata.

6. The sudden solution accompanied by a feeling of insight that sometimes comes to use during the creative-problem-solving process is known as the _____ experience.

7. _____ is the inability to see new uses for familiar objects.

8. Alfred Binet and Theophile Simon made important contributions to the development of the _____ test.

9. What would be the intelligence quotient of a child with the mental age (MA) of ten and a chronological age (CA) of ten on the Binet test?

10. What would be the intelligence quotient of a child with a MA of ten and a CA of eight on the same test?.

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Sensation and Perception

1. _____ is the meaningful interpretation of sensory experiences.

2. The tendency to minimize the difference in intensity between adjacent parts of a stimulus pattern is _____. It is opposite to the phenomenon called contrast.

3. Stimulus cues occurring at both ears are called _____ cues.

4. _____ cues refer to those cues experienced by one eye only.

5. _____ is the rotation of the eyes toward each other when looking at an object.

6. The _____ approach to perception is based upon the theory that the brain has innate organizing tendencies to see things as "wholes" or "good figures."

7. The visual cliff is an apparatus to test infants' and other animal babies' perception of _____.

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Conditioning, Learning and Memory

1. Russian physiologist _____ became interested in the phenomenon of classic conditioning while studying the digestive system of dogs.

Suppose you have trained a dog to salivate at the sound of a bell by feeding the dog after each ringing of the bell. Match each item with the appropriate term.

____ 2. Bell	A. Unconditional stimulus
____ 3. Food	B. Conditional stimulus
____ 4. Salivation as response to food	C. Unconditional response
____ 5. Partial salivation as response to bell	D. Conditional response

6. The principles formulated by American educational psychologist Edward Lee Thorndike became known as _____ and _____ learning.

7. American psychologist _____ developed a theory of instrumental conditioning. It involved the strengthening of a response with a positive or negative reinforcement. He called it operant conditioning.

8. It takes about twenty to thirty minutes for an experience to be filed away in _____-term memory.

9. _____ is the process by which stored information is erased, blocked from access, or prevented from being stored in one's memory bank.

10. _____ (retrograde or antegrade) amnesia is caused by a trauma during the consolidation period.

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Motivation and Emotion

1. Another term for the theory of deficiency motivation is the _____ theory.

2. The highest need according to Abraham Maslow is the need for _____.

3. The hedonic tone of an emotion refers to the degree of _____.

4. The _____ nervous system is responsible for arousing, or turning on, emotions.

5. The _____ nervous system slows down or turns off emotional activity in order to return the body to normal.

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Altered States of Consciousness

1. The term _____ is used to refer to the state of consciousness when on the verge of falling asleep.

2. Most dreaming occurs during _____ sleep.

3. The term used to describe the terrifying nightmares that some people experience during Stage 4 sleep is _____, or night terror.

4. _____ is an Altered State of Consciousness (ASC) characterized by increased susceptibility to suggestion.

5. Barbiturates _____ (increase or inhibit) neural activity.

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Frustration and Conflict

1. When an individual shifts his feelings of anger toward a substitute object or person, it is called _____.

2. _____ is a functional disorder that comes from the Latin words meaning "splitting of the mind."

3. A _____ is a disorder in which the individual has an irrational, intense fear of a certain object, place, or situation.

4. The periods of elation experienced by some people who suffer from psychotic depression are called _____ attacks.

5. The use of chemotherapy to treat psychotic disorders is an example of _____ (defense or direct) coping.

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Psychotherapy

1. Psychoanalytic therapies are based upon _____'s theory of personality development.

2. The method used in psychoanalysis in which the patient is encouraged to express everything that comes into mind is _____.

3. In behavior therapy, neurotic disorders are viewed as learned responses that have evolved into _____ reflexes.

4. _____ therapy, developed by Joseph Wolpe, involves the pairing of anxiety-producing stimuli with a relaxed state.

5. _____ advocated client-centered therapy for which he stressed the need for "unconditional positive regard."

6. Playing a projection, personality reversal, and exaggeration of slight unconscious movements are common techniques of _____ therapy.

7. Harry Stack Sullivan believed the therapist's role was one of _____.

8. _____ involves the destruction or removal of healthy brain tissue in order to treat a mental disorder.

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Personality

1. _____ are the enduring characteristics that are consistently observed in an individual's behavior.

2. The idea of personality _____ assumes that patterns of traits exist.

3. _____ rating involves the placement of an individual along a rating scale as compared with others in the sample.

4. The use of _____ is a projective technique developed by Hermann Rorschach.

5. TAT is an acronym for _____.

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Theories of Personality

Match each psychologist with the phrase representative of his theory. (1-7)

_____	1. Sigmund Freud	A. Inferiority complex
_____	2. Carl Jung	B. Crisis stages
_____	3. Alfred Adler	C. Psychoanalysis
_____	4. Erik H. Erikson	D. Observational learning
_____	5. Albert Bandura	E. Phenomenal field
_____	6. Carl R. Rogers	F. Collective unconscious
_____	7. Abraham Maslow	G. Hierarchy of needs

Fill in the blanks. (8-10)

According to Sigmund Freud, the _____ is one's conscious self; the _____ is the primitive system that is driven by the pleasure principle; and the _____ represents one's internalization of social norms.

Match the defense mechanisms and their descriptions. (11-15)

_____	11. Regression	A. Finding false reasons to justify behavior
_____	12. Repression	B. Shifting of feeling towards substitute object
_____	13. Rationalization	C. Perceiving another as having one's own unacceptable traits
_____	14. Displacement	D. Manifestation of immature behavior
_____	15. Projection	E. Inability to recall anxiety-arousing experiences

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Social Psychology

1. A(n) _____ is a consistent way of thinking and feeling about an aspect of the social environment.

2. A(n) _____ belief is one that is accepted on authority without regard of supporting premises.

3. The effectiveness of persuasion is greatly dependent upon the credibility of the _____.

4. The social perception of an individual in terms of groups membership rather than personal attributes is a(n) _____.

5. According to G. Heider, we expect to _____ (like or dislike) a person disliked by someone we dislike.

6. _____ (Groups or Individuals) are more likely to act in riskier, less responsible ways.

7. The _____ (more or less) people in a group, the more likely an individual in the group is to conform.

8. The order in which we receive information is important in person perception. Generally, _____ impressions are most important.

9. We refer to the area around us that we consider private as _____.

10. Task specialists and social-emotional specialists are two types of _____.

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Post-Test

Circle the correct answer.

1. The area in which an axon terminal of one neuron comes close to the dendritic zone of another is called a _____.

A. Neuron B. Soma C. Synapse

2. The folded surface area of the cerebrum is the _____.

A. Cortex B. Corpus callosum C. Cerebellum

3. The inability to recognize the meaning of words or to speak in meaningful terms is _____.

A. Amnesia B. Aphasia C. Displacement

4. _____ developed the theory that cognitive development occurs in four stages, the last of which is the period of formal operations.

A. Ivar Pavlov B. B.F. Skinner C. Jean Piaget

5. The correct equation to express the relation of chronological age to mental age according to the Binet test is _____.

A. $\frac{MA}{CA} \times 100 = IQ$ B. $\frac{CA}{MA} \times 100 = IQ$ C. $\frac{MA}{CA} = IQ$

6. _____ is the meaningful interpretation of sensory experiences.

A. Perception B. Sensation C. Gustation

7. _____ developed the procedure of operant conditioning in which the correct response, often being discovered by the subject, is followed by a reinforcing stimulus.

A. Sigmund Freud B. B.F. Skinner C. Abraham Maslow

8. The _____ nervous system slows down or turns off emotional activity.

A. Peripheral B. Sympathetic C. Parasympathetic

9. _____ is an important aspect of psychoanalysis.

A. Unconditional positive regard B. Free association C. Personality reversal

10. _____ is a defense mechanism in which the individual finds false reasons to justify illogical or otherwise inappropriate behavior.

A. Sublimation B. Regression C. Rationalization

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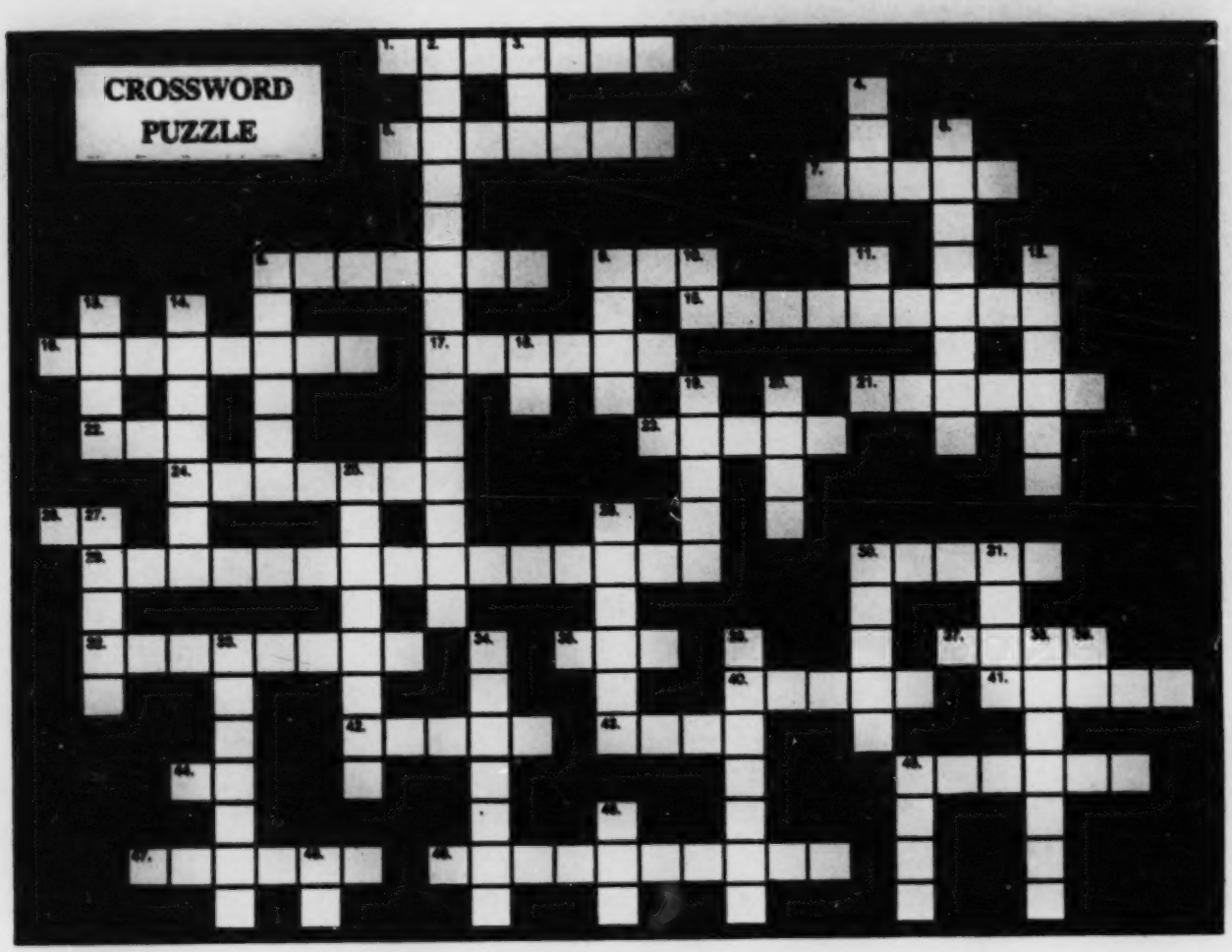

Across

1. Loss of the ability to articulate ideas.
5. Point at which nerve impulse passes from 1 neuron to another.
7. An aggregate that shares certain needs and goals.
8. To act according to the prevailing customs.
9. Acronym for altered state of consciousness.
15. What a reward does to a behavior.
16. Largest part of brain.
17. Nerve cell.
21. Bird in Skinner's experiments.
22. A projective technique; acronym.
23. Advocated psychoanalytic therapy.
24. State of distress.
26. Division of psyche that demands immediate gratification.
29. The act of devising self-satisfying, but incorrect reasons for one's behavior.
30. Thorndike formulated principles of _____-and-error learning.
32. The quality of being # 42 across.
35. The conscious self.
37. To contend with some success.
40. State of elation sometimes following depression.
41. Food and security are two.
42. Measures what it's supposed to.
43. Adolescent.
44. French psychologist who developed intelligence test (Initials).
45. Total personality in Jungian theory.
47. An irrational fear.
49. State of melancholy.

Down

2. Analytic technique originated by Freud.
3. Insight experience.
4. Sensory organ for audition.
6. Represents internalization of society's prohibitions.
8. Outer layer of brain.
9. Nerve fiber that conducts impulses away from nerve cell.
10. Developed client-centered therapy. Initials.
11. Skinner's first two initials.
12. Faculty of retaining and recalling past experiences.
13. Hemisphere that usually controls right hand.
14. From German meaning "good form."
18. Abbreviation for unconditioned response.
19. Organ of central nervous system.
20. Collective unconscious is aspect of his theory.
25. Mode of representation of knowledge by motor schemata.
27. A motivating tendency.
28. Swiss psychologist.
30. An enduring characteristic.
31. Same as 9 down.
33. Used by Hermann Rorschach.
34. Describes learning in terms of operant conditioning.
36. Loss of memory.
38. An impression in the mind.
39. According to him, each of 8 developmental stages had a crisis (Initials).
45. An unpleasant sensation.
46. Acronym for Rapid Eye Movement.
48. Acronym for Intelligence Quotient.

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Answers to Tests, Quizzes and Puzzle

Pre-Test

1. A
2. B
3. C
4. A
5. B
6. C
7. C
8. A
9. C
10. B

Quiz After Page 8

1. Heredity *vs.* environment
2. Critical-period
3. Imprinting
4. Adolescence
5. Identical twins

Quiz After Page 10

1. Central . . . peripheral . . . autonomic
2. Brain . . . spinal cord
3. Peripheral
4. Autonomic
5. Neuron
6. C
7. E
8. A
9. B
10. D

Quiz After Page 14

1. Cerebrum
2. Corpus callosum
3. Cortex
4. Thalamus
5. Left
6. Aphasia
7. Corpus callosum
8. Epilepsy

Quiz After Page 20

1. Jean Piaget
2. Accomodation
3. Four
4. Conservation
5. Enactive
6. Aha!
7. Functional fixity
8. Intelligence
9. 100
10. 125

Quiz After Page 24

1. Perception
2. Assimilation
3. Binaural
4. Monocular
5. Convergence
6. Gestalt
7. Depth

Quiz After Page 31

1. Ivar Pavlov
2. B
3. A
4. C
5. D
6. Trial-and-error
7. B.F. Skinner
8. Long
9. Amnesia
10. Retrograde

Quiz After Page 34

1. Drive
2. Self-actualization
3. Pleasantness
4. Sympathetic
5. Parasympathetic

Quiz After Page 36

1. Hypnagogic
2. REM
3. Incubus
4. Hypnosis
5. Inhibit

Quiz After Page 40

1. Displacement
2. Schizophrenia
3. Phobic neurosis (disorder) or phobia
4. Manic
5. Defense

Quiz After Page 44

1. Sigmund Freud
2. Free association
3. Conditioned
4. Desensitization
5. Carl Rogers
6. Gestalt
7. Participant observer
8. Psychosurgery

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Quiz After Page 47

1. Traits
2. Types (typologies)
3. Normative
4. Inkblot tests
5. Thematic apperception test

Quiz After Page 64

1. Attitude
2. Primitive
3. Communicator
4. Stereotype
5. Like
6. Groups
7. More
8. First
9. Personal space
10. Leaders

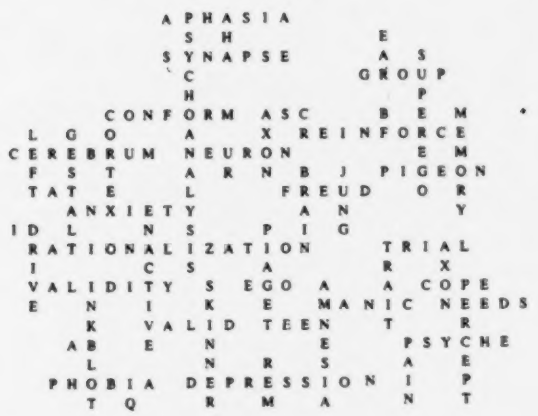
Quiz After Page 56

1. C	6. E	11. D
2. F	7. G	12. E
3. A	8. Ego	13. A
4. B	9. Id	14. B
5. D	10. Superego	15. C

Post-Test

1. C	6. A
2. A	7. B
3. B	8. C
4. C	9. B
5. A	10. C

Answers to Crossword Puzzle


APHASIA
SH E
SYNAPSE AS
C GROUP
H P
CONFORM ASC BEM
LGO A X REINFORCE
CEREBRUM NEURON E M
FS T A R N B J PIGEON
TAT E L FREUD O R
ANXIETY A N Y
ID L N S P I G
RATIONALIZATION TRIAL
I C S A R X
VALIDITY S EGO A A COPE
E N I K E MANIC NEEDS
K VALID TEEN T R
AB E N E PSYCHE
L N R S A E
PHOBIA DEPRESSION I P
T Q R M A N T

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Glossary

aha! experience—sudden realization of solution accompanied by feeling of insight.

ASC—altered state of consciousness. A state different from the normal state of consciousness (NSC).

amnesia—the loss of memory.

anxiety—a state of apprehension.

aphasia—inability to articulate ideas because of cortical injury.

attitude—an enduring system of positive or negative feelings and thoughts regarding a social object.

autonomic—nervous system mainly responsible for the automatic responses of the body.

axon—on of the long, thin processes of a neuron that lead impulses away.

brain—part of central nervous system encased in skull, or cranium.

central nervous system—comprises brain and spinal cord.

cerebellum—portion of hindbrain; plays role in coordination of muscular activity.

cerebrum—largest part of brain; develops as 2 symmetrical hemispheres.

collective unconscious—in Jungian psychology, the aspects of personality that represent the cumulative experiences of the human species.

cortex—outer part of an organ.

conditioned-response learning—the pairing of a neutral stimulus with a stimulus that produces a particular response until the neutral one produces the same response.

defense mechanisms—various forms of reaction to the anxiety aroused by conflict that serve to enhance and protect the self-image.

dendrite—shorter, thicker processes of neuron.

displacement—defense mechanism in which a feeling is shifted to substitute object.

ego—in Freudian psychology, the aspect of personality called "the self." It is in contact with the external world.

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free association—technique of psychoanalysis in which patient is encouraged to talk about whatever comes to mind.

functional fixity—the inability to see new uses for familiar objects.

Gestalt—an approach to the experimental study of the organized nature of perception based upon the assumption that we see things in wholes, or "good forms." *Gestalt* is the German word for "form."

hypnosis—state in which subject is highly susceptible to suggestion.

id—in Freudian psychology the division of the psyche whose impulses are demands for immediate gratification.

IQ (Intelligence Quotient)—mental age (MA) in relation to chronological age (CA).

libido—in Freudian psychology, the general biological energy that provides the impetus for all psychic activities.

memory—ability to retain and recall past experiences.

neuron—a nerve cell.

neurosis (psychoneurosis)—a milder form of mental illness in which person maintains contact with reality.

parasympathetic nervous system—part of the autonomic nervous system. Slows down emotional activity.

perception—the interpretation of a sensory experience.

peripheral nervous system—the motor and sensory nerves.

personality—the integration of an individual's traits into a unique organization.

phobia—an irrational fear of a certain object, place, or situation.

projection—defense mechanism in which individual attributes to other people impulses and traits he has but can't accept.

psyche—in Jungian psychology, the total personality.

psychoanalysis—analytic technique originated by Freud that uses free association, dream analysis, and transference.

psychology—the science of mental processes and behavior.

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psychosis—class of more severe mental disorders.

psychosurgery—brain surgery when used to treat mental disorders.

REM—rapid eye movement (during certain stages of sleep).

rationalization—self-serving, but incorrect reasons for one's behavior.

reaction-formation—defense mechanisms in which individual exaggerates behavioral tendencies opposite to his repressed impulses.

reinforcement—an event that increases the probability that a certain stimulus will produce a certain response.

regression—defense mechanism characterized by immature behavior.

repression—inability to recall anxiety-arousing experiences.

schizophrenia—psychosis marked by emotional withdrawal and loss of contact with reality.

self-actualization—the full expression of one's potential.

stereotype—the social perception of an individual in terms of one's perception of the individual's group membership.

superego—represents internalization of society's prohibitions.

sympathetic nervous system—part of autonomic nervous system. Increases emotional activity.

synapse—place in which axon terminal of one neuron approaches dendritic zone of another.

trait—an enduring characteristic of an individual manifested in a consistent way of behaving.

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Answers and Background Information to Activities

HUMAN DEVELOPMENT

Heredity and Environment (pages 6-7)

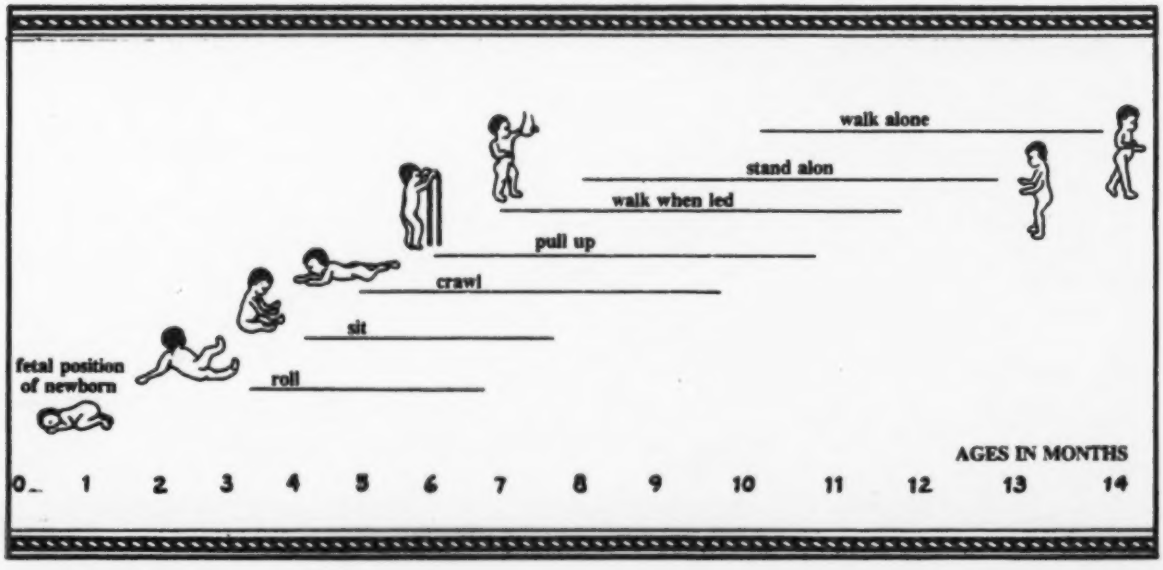
1. Most people have 23 pairs of chromosomes. If the 21st set has three chromosomes instead of two, the person will suffer from trisomy-21, or Down's Syndrome, a form of mental, physical, and behavioral deficiency.

2. These experiments lead to the conclusion that some types of learning abilities can be inherited.

3. Fraternal twins are those who have developed from two different zygotes, or fertalized ova. They may be of the same sex or one may be male and the other female. Although fraternal twins may look very much alike, they are no more genetically similar than other pairs of siblings. Identical twins, on the other hand, developed from the same zygote; therefore, they are genetically identical. The study of identical twins reared in different environments can provide a great deal of information, for it is the only circumstance in which the genetic factor is known. The testing of the intelligence of identical twins reared apart supports the hypothesis that genetic factors play an important role in determining the intelligence of an individual. They were found to be more alike in IQ than other siblings, whether or not they were reared together. The studies also affirm the importance of environment, for they were more alike when raised in the same environment.

Growth and Development (pages 7-8)

1. The principle explaining this pattern has to do with the maturation of the connections between the central nervous system and the muscles. Long nerve fibers branch out through the spinal cord to connect with the various muscles. The head muscles are closer to the brain than are the foot muscles; therefore, motor centers of the brain gain control of the head muscles first. In a similar manner, the trunk muscles are closer to the spinal cord and brain than are those in the feet and hands; therefore, the truck muscles come under control before those in the toes and fingers.



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3. Imprinting refers to the rapid and enduring learning that occurs in the first few days of an animal's life. It apparently plays an important part in the formation of strong attachments by the young. Lorenz long ago noticed that goslings, like many birds, follow the first moving object they see. Usually, that is their mother. When he hatched the birds in an incubator so that he became the first moving object they saw, they followed him instead—even when their mother was present. The process of imprinting is strongest in geese from about 16 to 24 hours after hatching.

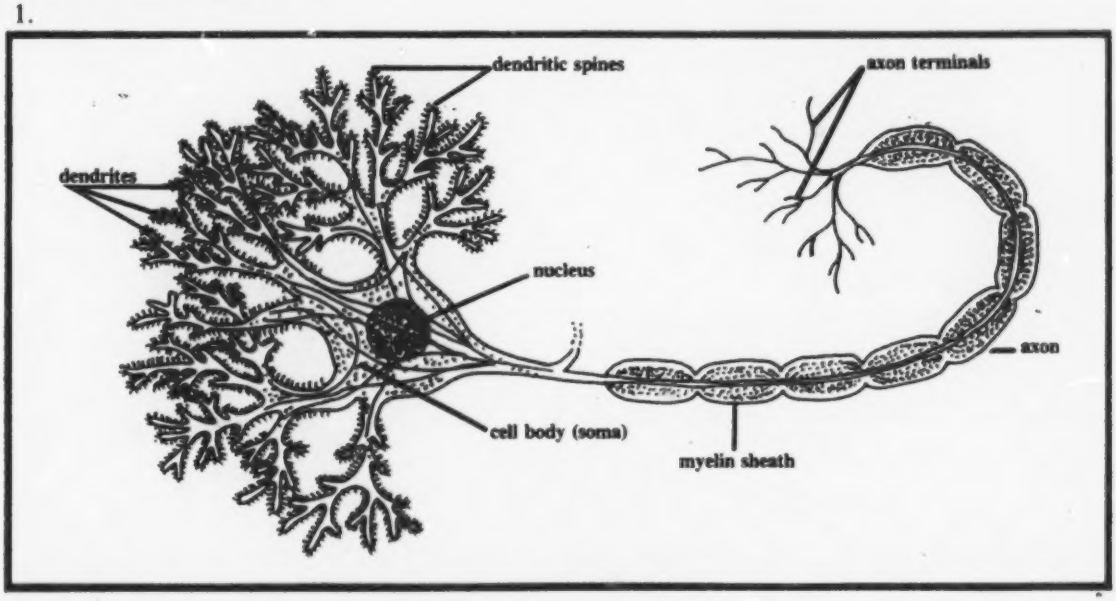
5. The innate urge to fear and avoid new objects becomes stronger than the urge to follow any object that moves.

7. Social and economic events which might effect personality development are one's first job, being fired or promoted, marriage, parenthood, separation or divorce, children leaving home, widowhood, retirement, and ill health.

THE NERVOUS SYSTEM

The Neuron (pages 9-10)

1.



2. A sensory neuron carries impulses from a sensory receptor to the brain or spinal cord. A motor neuron carries impulses from the brain or spinal cord to a muscle or gland.

3. Some synapses are excitatory. When an excitatory synapse releases transmitter substance into the synaptic space, it can spread out into the dendritic zone of the next neuron and stimulate it to activity. Other synapses are inhibitory and can prevent this activity from occurring. When an inhibitory synapse releases transmitter substance into the synaptic space, the transmitter prevents an impulse from being produced in the neuron that receives the substance.

The Peripheral Nervous System (page 10)

1. Increases in the strength of the stimulus above that of the potential affect neither the size nor the time span of an action potential. In nerves with many individual fibers, the compound action potential varies because the threshold of the individual fibers vary. In other words, a minimal strength stimulus might stimulate only some fibers; if the stimulus increases in strength, others with a higher threshold will respond. Each fiber, however, either is stimulated or not, depending on its threshold.

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The Brain (pages 11-14)

1. *Cortex* is a Latin word meaning "the bark of a tree or the skin of a mushroom."

3. Forebrain: cerebrum, hypothalamus, thalamus
Midbrain:
Hindbrain: cerebellum, medulla, pons

4. The brainstem comprises the midbrain, the pons, the medulla, the thalamus, and the hypothalamus. The pons and medulla are referred to as the lower brainstem; the midbrain, thalamus, and hypothalamus are referred to as the upper brainstem.

5. There are two main kinds of speech disorders that result from brain damage: sensory and motor aphasia. Patients who suffer from sensory aphasia have difficulty understanding or recognizing spoken language. In motor aphasia the patient has trouble producing speech, especially in finding the correct word. In most cases the cerebral lesion that produces aphasia is found on the left side of the brain—evidence that the left hemisphere is the "talking" hemisphere, the hemisphere that controls language.

6. A lesion that produces a difficulty in perception and retention of nonverbal stimuli is usually found on the right temporal lobe.

8. When the corpus callosum, the bridge connecting the two hemispheres is cut, the two hemispheres are separated; therefore, the feedback loop that leads to the grand mal seizure is prevented. The hemisphere with the lesion cannot send the "excited" message to the mirror image cells in the other hemisphere.

9. Each hemisphere receives visual imput from the opposite visual field; therefore, a stimulus to the left visual field is received by the individual's right hemisphere. In the case of an individual whose corpus callosum has been cut, the right hemisphere has no way of sending the information to the left hemisphere, which controls speech. That is why the left hemisphere says that it has seen something. The right hemisphere, which did receive the input (see the object), can show that it recognizes the object if the individual is given the opportunity to respond in a nonverbal way—for example, by pointing to the object or a picture of the object from several alternatives.

COGNITIVE DEVELOPMENT

General (pages 15-16)

3. By about six or seven, most children can conserve both length and quantity because they are able to perform the transformation mentally. They can "conserve" the properties. For example, if you filled two tall, thin identical glasses with water, a four-year-old would know that each had the same amount of water. If you poured the water from one of the glasses into a short, wide glass, he would think that the tall one had more water; he wouldn't be able to conserve quantity in his mind.

Creative Problem Solving (pages 17-19)

2. The "aha!" experience is an intense emotional experience that comes when an individual suddenly feels sure he clearly understands the problem and its solution. He may later find that he was wrong.

3. With this approach a person's level of problem-solving ability is not thought of as something with which he was born. Instead, his proficiency is viewed as a skill which, like other skills, can be taught and which can improve through instruction and practice.

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5. As the intensity of motivation increases, the effectiveness also increases up to an optimal point. Further increases in motivational intensity, however, result in a decrease of efficiency.

6. In B the radius is easily seen as part of the square. In A it is not easily perceived as such.

7. There are endless possibilities. If you wish to give an example, however, you might cite the use of chewing gum as an adhesive.

8. Personal factors that determine problem-solving proficiency include knowledge about the objects involved; memory; intelligence; the way in which the individual handles stress and other personality factors, such as flexibility, initiative, and confidence.

Intelligence (page 20)

1. A: 160 B: 63 C: 100

3. The first born spends most of his/her time with his/her parents, who serve as the child's models. With each successive sibling the intellectual environment becomes diluted. For example, the second child spends a lot of time with his slightly older sibling and misses some of the intellectual stimulation. The third, fourth, etc., receive even less stimulation.

SENSATION AND PERCEPTION

General (pages 21-24)

1. Difficulties in perception arise when objects in the environment are camouflaged, energy from an object is altered in the medium, the sensory systems become handicapped, the sensory nerves to the brain become injured, the sensory areas of the brain are injured or when an individual holds erroneous beliefs about the object.

4. The phenomenon of contrast would ordinarily cause the neutral gray ring to appear lighter against a black background and darker against a white background; however, because the ring is seen as a single, unbroken entity, the assimilation takes over, and we perceive the ring as having a uniform lightness. When we add a contour, we separate the ring into two parts; the right half appears uniformly darker and the left half appears uniformly lighter.

5. The act of camouflage is a special application of the competition of grouping tendencies. Camouflage uses factors such as "good continuation" and closure to hide other configurations.

6. Expectancy greatly affects our perception. In most cases, subjects see the young woman and then the old. Those who are told to expect an old woman usually see the old woman and then the young woman. Those who are told to expect the young woman see the young woman easily but often have difficulty seeing the old woman.

7. One binaural cue is the time difference between the time the sound reaches one ear and the other. The person doesn't consciously recognize the difference, but there is an automatic integrating process in the auditory system; the brain interprets (although at times mistakingly) the auditory inputs as coming from one side or the other. Another binaural cue is the difference in intensity. A sound is slightly more intense at the ear on the side of the source. Sometimes the sound comes from the medium plane; the binaural cues are not enough to locate the sound, for it may be directly in front, in back, above, or below. Under those circumstances, we usually move our heads slightly, bringing each ear alternately closer to the sound source in order to pinpoint its location.

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8. Monocular depth cues include interposition, relative size, relative height, relative clarity and light and shadow. If an object partly covers another object, it usually appears closer. If two objects are believed identical, the one that casts a larger image on your retina is perceived as closer. Below the horizon, the lower of two objects is usually perceived as closer. The clearer and more detailed an object is, the closer it appears to be. Light and shadow also give clues which help your brain perceive three dimensions, or depth. Interposition is the most reliable of these and is usually given the most importance when available.

10. When looking at an object in depth, each eye looks at it from a slightly different angle; therefore, the images on the two retinas are slightly different. In a stereoscope, two photographs of the same scene are taken at slightly different angles and viewed through two eyepieces.

11. Gibson concluded that most higher species of animals have innate behavioral mechanisms that tend to protect them from the dangers of falling from high places. The infants in her study seemed to be visually oriented. To them, seeing is believing! Others, however, seem to be touch oriented. These babies will crawl onto the glass as long as they can feel its support. The results of these experiments do not give a positive answer to the question of whether or not infants are born with an innate fear of heights.

CONDITIONING, LEARNING, AND MEMORY

Classic Conditioning (pages 25-26)

1. Assume the animal has been strongly conditioned to salivate to a bell. The bell then can be used as an UCR to be paired with the light, the new CR. In time the animal will salivate to the light alone. This procedure is effective even when the pairing of the two neutral stimuli is done before pairing one of them with the unconditional stimulus. In that case it would be called sensory preconditioning.

Instrumental Learning (pages 27-29)

2. Under a 100 percent reinforcement schedule an individual learns that the learned response always results in the reinforcement. After only a few trials without reinforcement, therefore, the individual realizes that the connection between the response and the reward (in the case of positive reinforcement) is no longer reliable. Extinction occurs in a short period of time. If the individual was trained under partial reinforcement, on the other hand, he is used to some unreinforced trials. When he fails to be rewarded, it is believed to be a normal break in the reinforcement schedule. This is especially true if the individual had been rewarded on a variable-ratio schedule rather than a fixed-rate schedule (for example, every ten times).

4. SIMILARITIES: Performance is increased with reinforced trials. Performance decreases with nonreinforced trials. Spontaneous recovery occurs with both. Generalization and discrimination occur with both. DIFFERENCES: In instrumental conditioning the subject has more control over his responses than in classic conditioning. The response in classic conditioning is usually automatic, or reflexive, and quite simple. The response in instrumental conditioning is usually voluntary and more complex. The responses in classic conditioning seem to be under the control of the autonomic nervous system and those of instrumental conditioning involve skeletal muscles.

Memory (pages 30-31)

1. Short-term memory often involves chunking in order to cut down on the number of separate elements in the string. An experienced telephone caller chunks the three digits for the area code and three for the exchange. Four digits are left. Many businesses try to acquire phone numbers whose last four digits are easily sequenced, such as "1,2,3,4" or "2000."

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3. Studies show that the words at the beginning and end of the list interfere with the ability to recall the items in the middle.

4. Anterograde amnesia results from the inability to transfer items from short-term to long-term memory. The patient is able to recall things that happened before the trauma or brain damage but not after. He might remember an incident that occurred years ago but not be able to remember an experience of an hour ago.

MOTIVATION AND EMOTION

General (pages 32-34)

1. Those motives necessary for the preservation of the individual are hunger, thirst, the need for sleep, and the avoidance of pain. Motives necessary for the preservation of the species are sexual needs and maternal behavior.

2. Self-actualization is the desire to reach the limits of one's potential. It requires the self-confidence to express oneself and to make one's own special contribution to society. A truly actualized individual also tries to help others move up the ladder.

3. B: Joy D: Anger A: Fear C: Grief

6. The James-Lange theory assumes that emotions are dependent upon the feedback from muscular and glandular responses. Other psychologists have criticized their view. Walter B. Cannon and (separately) P. Bard in 1937 advanced an opposing viewpoint. They pointed out that people who lose use of the sympathetic system due to disease or accident still feel emotions and show emotional behavior. Also, those muscular and glandular responses seem to begin after the emotions have begun to be felt and not before. In addition, the same physical changes may occur with very different emotional states. Cannon and Bard believed that the thalamus controls emotion and that the hypothalamus controls bodily responses. They, too, were criticized, however, for individuals with damaged thalami or hypothalami still experience emotions. In the 1960's other scientists showed that the limbic system and the right hemisphere are important in mediating emotions and feelings. By the 1970's most psychologists came to agree that intra-psychic factors must be taken into consideration in addition to hormonal and neural activity.

ALTERED STATES OF CONSCIOUSNESS

General (pages 35-36)

3. **R** apid **E** ye **M** ovement: REM

4. Sperry's findings would seem to indicate that dreaming is primarily a function of the right hemisphere. This is supported by evidence that the right half of the brain is usually more active electrically than the left during dreaming. Other scientists have reported different outcomes with their split-brain patients, however, and so there is still some uncertainty.

5. During REM sleep most of our voluntary muscles (not including our eyes) become somewhat paralyzed. Our brain sends messages to them, but they do not respond. This is called muscular inhibition. During light and deep sleep this muscular inhibition does not occur.

6. Although pictures will vary, a fairly common example of the therapeutic use of hypnosis is to help people quit smoking.

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7. Many scientists believe that alcohol tends to destroy brain tissue in the dominant hemisphere. Many chronic alcoholics display behavior—slurred speech and the ability to think logically—that seems to support this view. These are functions usually carried out by the left hemisphere. The emotional outbursts often displayed may be symptomatic of the right hemisphere trying to take over these functions.

FRUSTRATION AND CONFLICT

General (pages 37-38)

4. The choice between two positive goals causes the least anxiety. The goal that has both positive and negative aspects is the truest conflict and is believed by many psychologists to cause the most anxiety, for the individual is both attracted and repelled in the same direction. The choice between two negative goals represents the necessity to choose between the lesser of two evils. Although it is an unpleasant situation, there is not as much conflict between the two choices.

MENTAL DISORDERS

General (pages 39-40)

1. Examples are mental retardation, hyperactivity, conduct disorders (aggressive and nonaggressive behavior), separation anxieties, eating disorders (anorexia nervosa and bulimia), stuttering, autism, and sleep disorders (sleep walking and sleep terror.)

2. The principal characteristic of schizophrenia is general mental disorganization. Schizophrenics do not all show the same symptoms, but the following are common: a strange distortion of emotions and feelings; insensitivity to usually emotional situations; a deterioration of dress, hygiene, and conduct standards; withdrawal from the external world; hallucinations; and confused thought, speech, and behavior. The term "splitting of the mind" sometimes misleads people to associate "multiple personalities" or "split personalities" with schizophrenia, but this type of dissociative disorder has nothing to do with schizophrenia.

3. Paranoic reactions are characterized by an organized set of delusions, usually of persecution or grandeur.

4. **Common Phobic Reactions**

Acrophobia	height (Greek *akra*, heights or summits)
Agoraphobia	open spaces (Greek *agora*, market place, the place of assembly)
Ailurophobia	cats (Greek *ailuros*, flower)
Anthophobia	flowers (Greek *anthos*, flower)
Anthropophobia	people (Greek *anthropos*, man, generically)
Aquaphobia	water (Latin *aqua*, water)
Astraphobia	lightning (Greek *asterope*, lightning)
Bacteriophobia	bacteria (Greek *bacteria*, small rod)
Brontophobia	thunder (Greek *bronte*, thunder)
Claustrophobia	closed places (Latin *claustrum*, bar, bolt or lock)
Cynophobia	dogs (Greek *kynas*, dog)
Demonophobia	demons (Latin *daemon*, demon)
Equinophobia	horses (Latin *equinus*, horse, adj.)
Herpetophobia	lizards, or reptiles (Greek *herpetos*, a creeping or crawling thing)
Mysophobia	dirt, germs, contamination (Greek *mysos*, uncleanliness of body or mind)
Numerophobia	a number or numbers (Latin *numeri*, numbers)
Nycotophobia	darkness or night (Greek *nyx*, night)
Ophidiophobia	snakes (Greek *ophidion*, snake or serpent)
Pyrophobia	fire (Greek *pyr*, fire)
Spatiphobia	self-confining phobia; phobically imposed spatial restrictions (English, space)
Zoophobia	animals (Greek *zoos*, animal)

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6. Both defense and direct coping are ways of dealing with stress-related problems. With defense coping the individual runs away from the problem either physically or psychologically, walls himself off from reality, or becomes depressed. Direct coping involves facing the issues and attempting to solve the problems.

PSYCHOTHERAPY

General (pages 41-44)

1. Transference is the process by which the patient is encouraged to transfer the unconscious emotional feelings and attitudes he holds towards important people in his life (such as his parents) to the analyst. For example, the patient acts towards the analyst as he usually acts towards his mother or father. The difference between the analyst's reactions and those of the parents is an important factor in the re-education of the patient. The therapist's goal is to make the patient aware of the true origin of the feelings and to bring these feelings into conscious control. The best time for the therapist to interpret the feelings is believed to be just before the patient is about to make the realization himself.

3. Classic psychoanalysis takes much longer and is very costly for the patient; many feel it is only suited to a small group of wealthy people who are only mildly disturbed.

4. Behaviorists believe that at some point the object of the person's phobia (the conditional stimulus) was paired with a noxious stimulus—one that would under normal circumstances cause fear and anxiety (the unconditional stimulus). In most cases the pairing of this conditional and unconditional stimulus is accidental. The phobia represents the individual's attempt to avoid the conditional stimulus and the associated anxiety.

6. Psychologist C. Traux observed Rogers and noted that he reinforced certain statements made by the patient with nods of the head and smiles and ignored other statements completely.

10. In acting out roles that represent their emotional problems, it is hoped they will gain insight into their problems. At the same time, the experience should provide some emotional release.

PERSONALITY

General (pages 45-47)

1. According to classical Greek theorists, emotional equilibrium and health, in general, were dependent upon the proper balance of the four humours, or fluids, in the body: blood, black bile (congealed blood from the spleen), yellow bile (secreted by the liver and stored in the gall bladder) and phlegm. Too much blood was believed to result in a sanguine temperment: enthusiastic, excitable and optimistic. Too much black bile was believed to cause melancholia. Too much yellow bile was thought to cause a choleric temperment: angry and irritable. Too much phlegm results in a phlegmatic, or apathetic, temperment.

2. Kretschner called the thin, long-limbed, narrow-chested body type the "asthenic type." He labeled short, barrel-chested, chubby people the "pyknic type." He believed the asthenic-type individual to be shy, sensitive, aloof, and withdrawn and the pyknic type to be outgoing, lively, jolly, and likely to have mood changes. To him, the asthenic body type was characteristic of schizophrenics and the pyknic was characteristic of manic-depressives.

4. To Galton the "fittest" meant intellectually superior. He had two main problems: identifying the traits that correlated with intellectual superiority and measuring those traits. Although he was unable to gain interest in his projects, his contributions to the study of individual differences was great.

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8. Reliability refers to experiments or tests that can be repeated again and again with the same results. Validity refers to a set of experiments or tests whose results measure what the experimenter thinks it measures. A test's results may always be the same and still not be valid because it doesn't measure what we think it measures. If the results of the test change (if they are unreliable), however, they cannot correlate with any set of criterion scores.

Theories of Personality (pages 47-56)

3. Sublimation is the most mature.

6. The great flood, hostile brethren, and the creation of the world are examples of recurrent mythological themes.

8.

ERIKSON'S DEVELOPMENTAL STAGES

1. Sensory Stage: Trust vs. Mistrust
2. Muscular Stage: Autonomy (ability to control bodily functions) vs. Shame & Doubt
3. Locomotor Control Stage: Initiative (If learns to channel sexual needs into acceptable behaviors) vs. Guilt
4. Latency: Industrious (If learns can succeed) vs. Inferiority (If consistently fails)
5. Adolescence: Identity vs. Role Confusion
6. Early Adulthood: Intimacy vs. Isolation
7. Adulthood (Middle Age): Generativity vs. Stagnation
8. Maturity: Ego Integrity vs. Despair

9. The adolescent may have several clashing elements with which to identify; for example, a domineering father, a dependent mother, an outgoing aunt, etc. There is also the problem of "finding oneself" too early, before experimenting with all the possible roles. The adolescent then risks eliminating a role that might have suited him or her better. Also, the individual might later find that he or she is unable to meet new crises.

10. Vicarious learning is something you learn from the experiences of other people. For example, you don't have to smash your hand with a hammer to know that it would hurt! If you saw someone else have that experience, it would be enough to teach you that you should avoid that experience!

13. Rogers advocated a non-directive approach to psychotherapy. The patient, referred to as the client, determines the speed, duration and general direction. The therapist's function is to clarify and interpret the client's thoughts and feelings.

14. For Maslow's characteristics of Self-Actualizing People see Maslow, A.H. *Motivation and Personality*. 2nd ed. New York: Harper & Row, 1970. A few important characteristics mentioned by Maslow are realistic, private, detached, independent, appreciative of basic pleasures, ethical, non-hostile sense of humor, serious, inventive and resistant to pressures to conform.

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SOCIAL PSYCHOLOGY

The Individual in Society (pages 57-64)

1. Nurturing itself is a moral behavior and in that sense the nurturing adult provides a model of moral behavior. The child also learns that his or her own behavior affects the way others feel. An adult who favors a love-oriented approach to discipline is more likely to communicate on a day-to-day basis behaviors viewed as moral and is more likely to reward the child with frequent praise for those behaviors. Because the love-oriented adult tends to explain why an inappropriate behavior is to be avoided, the child may be better able to gain an understanding of the principles involved. Also, the child comes to realize that inappropriate behavior leads to the loss of affection. This factor may cause enough anxiety to prevent the child from misbehaving.

2. Studies have shown that individuals who have had little or no prior exposure to ideas and attitudes which differ from their own are more likely to accept new ideas and attitudes when they are exposed to them. Children who are used to having their beliefs weakly challenged gradually learn to defend their attitudes. Their own attitudes are reinforced and they become better able to resist stronger challenges when they do occur.

3. It is difficult to persuade someone to change a primitive belief, for any arguments or reasoning you present are irrelevant to the individual's belief. Higher-order beliefs are based upon supporting premises; the holder of this type of belief is more apt to be open to new, relevant information. If the higher-order belief is based upon several independent sets of premises, the individual is less likely to give up the belief; if only one set of premises were weakened, there would still be others to support the belief.

7. The individual (perceiver) may distort the evidence of the true characteristics or even ignore the evidence completely. He may say that the person being perceived is an exception to the rule. He may exaggerate the perceived attributes which conflict with the stereotyped image. For example, suppose he thinks members of a particular group to be lazy and stupid. If he meets a member of that group with great academic and professional achievements, he may exaggerate the person's intelligence in order to portray him as a rare exception.

10. One example might be a set of passengers on a bus that has broken down in a deserted place; they must now work together in order to get back to civilization.

11. One possibility is that each bystander in an aggregate of bystanders assumes another will respond. Also, if the others seem unconcerned, this might have a negative effect on the tendency to react. Latane theorized that the greater the number of bystanders, the less responsibility felt by each individual bystander, for that responsibility is divided.

14. Several characteristics seem to correlate with nonconformity, or the tendency to remain independent from group pressure: intelligence, originality, ego-strength, the absence of anxiety, tolerance, responsibility, and dominance.

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